(iii) The still water tank bending moments and saddle reactions shall be superimposed upon those obtained by simultaneous application of the following dynamic loadings:

(a) Rolling 30° each side (120° full cycle) in 10 seconds.

(b) Pitching 6° half amplitude (24° full cycle) in 7 seconds.

(c) Heaving L/80 half amplitude (L/20 full cycle) in 8 seconds.

(iv) The hull structure and saddle support system shall be analyzed, using the maximum hull bending moments and saddle reactions obtained from the foregoing. Bending stress shall not exceed 60 percent of the yield strength or 42 percent of the minimum tensile strength of the material, whichever is less. Critical buckling strength shall be at least 75 percent greater than calculated buckling stresses. The maximum tank bending moments and saddle reactions shall be used in the tank design calculations required by §151.15-3(b)(8).

Subpart 151.12—Equipment and Operating Requirements for Control of Pollution From Category D NLS Cargoes

SOURCE: CGD 81-101, 52 FR 7777, Mar. 12, 1987, unless otherwise noted.

§151.12-5 Equipment for Category D NLS.

The Coast Guard endorses the Certificate of Inspection and for ships making foreign voyages issues the endorsed NLS Certificate required by §151.12-10 for an oceangoing non-self-propelled ship to carry as bulk cargo the following Category D NLSs if the ship meets the requirements of this part and the requirements applying to ships that carry Category D NLS cargoes in §\$153.470, 153.486, and 153.490 of this chapter:

Acetic acid
Acrylic acid
Adiponitrile
Aminoethylethanolamine
Ammonium bisulfite solution
Butyl methacrylate
Caustic soda solution
Coal tar pitch
Cyclohexanone
Dichloromethane

2.2-Dichloropropionic acid Diethylenetriamine N,N-Dimethylacetamide Dimethylethanolamine Dimethylformamide 1,4-Dioxane Ethanolamine N-Ethylcyclohexylamine Ethylene cyanohydrin Ethylene glycol monoalkyl ethers Ethyl methacrylate Formic acid Glutaraldehyde solution Hydrochloric acid Mesityl oxide Methyl methacrylate Morpholine 1- or 2-Nitropropane Phosphoric acid Polyethylene polyamines Polymethylene polyphenyl isocyanate Propionic acid iso-Propyl ether Pyridine Tetraethylenepentamine Tetrahydrofuran Triethanolamine Triethylenetetramine

[CGD 81-101, 52 FR 7777, Mar. 12, 1989, as amended by CGD 88-100, 54 FR 40040, Sept. 29, 1989; CGD 92-100, 59 FR 17028, Apr. 11, 1994; CGD 94-900, 59 FR 45139, Aug. 31, 1994; CGD 94-902, 60 FR 34043, June 29, 1995]

§151.12-10 Operation of oceangoing non-self-propelled ships Carrying Category D NLS.

(a) An oceangoing non-self-propelled ship may not carry in a cargo tank a Category D NLS cargo listed under §151.12-5 unless the ship has on board a Certificate of Inspection and for ships making foreign voyages an NLS Certificate endorsed under that section to allow the cargo tank to carry the NLS cargo.

(b) The person in charge of an oceangoing non-self-propelled ship that carries a Category D NLS listed under §151.12-5 shall ensure that the ship is operated as prescribed for the operation of oceangoing ships carrying Category D NLSs in §153.901, 153.909, 153.1100, 153.1102, 153.1104, 153.1106, 153.1124, 153.1126, 153.1128, 153.1130 and 153.1132 of this chapter.

[CGD 81–101, 52 FR 7777, Mar. 12, 1987, as amended by CGD 81–101, 53 FR 28974, Aug. 1, 1988 and 54 FR 12629, Mar. 28, 1989]